

PCT

REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receiving Office use only

International Application No

PCT/RO/01/00013

International Filing Date

07.03.2000

PCT INTERNATIONAL APPLICATION

Name of receiving Office and "PCT International Application"
AIEONIE ATTENH

Applicant's or agent's file reference

(if desired) (12 characters maximum) PANAGIOTIDOU

Box No. I TITLE OF INVENTION

METHOD FOR THE QUALITATIVE IMPROVEMENT OF THE PRODUCTS OF THE TOBACCO PLANT.

Box No. II APPLICANT

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

NIKOLAOU ATHANASIOS of PANAGIOTIS
8 EVROU STR.
19100 MEGARA ATTIKIS
ATHENS - GREECE

☒ This person is also inventor.

Telephone No

0030-296-82755

Facsimile No.

Teleprinter No.

State (that is, country) of nationality:
GRState (that is, country) of residence:
GRThis person is applicant
for the purposes of:☒ all designated
States☐ all designated States except
the United States of America☐ the United States
of America only☐ the States indicated in
the Supplemental Box

Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

This person is

☐ applicant only☐ applicant and inventor☐ inventor only (If this check-box
is marked, do not fill in below.)

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant
for the purposes of:☐ all designated
States☐ all designated States except
the United States of America☐ the United States
of America only☐ the States indicated in
the Supplemental Box☐ Further applicants and/or (further) inventors are indicated on a continuation sheet.

Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE

The person identified below is hereby/has been appointed to act on behalf
of the applicant(s) before the competent International Authorities as:☒ agent☐ common representativeName and address: (Family name followed by given name; for a legal entity, full official
designation. The address must include postal code and name of country.)

PANAGIOTIDOU EFFIMIA
ATTORNEY AT LAW
(No of Reg. at the EPO: 155600)
41 MITROPOLEOS
546 23 THESSALONIKI - GREECE

Telephone No.

0030-31-241880

Facsimile No.

0030-31-225275

Teleprinter No.

☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

Box No.V DESIGNATION OF STATES

The following designations are hereby made under Rule 4.9(a) (mark the applicable check-boxes; at least one must be marked):

Regional Patent

- ☒ AP ARIPO Patent: GH Ghana, GM Gambia, KE Kenya, LS Lesotho, MW Malawi, SD Sudan, SL Sierra Leone, SZ Swaziland, TZ United Republic of Tanzania, UG Uganda, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT
- ☒ EA Eurasian Patent: AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakhstan, MD Republic of Moldova, RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT
- ☐ EP European Patent: AT Austria, BE Belgium, CH and LI Switzerland and Liechtenstein, CY Cyprus, DE Germany, DK Denmark, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, SE Sweden, and any other State which is a Contracting State of the European Patent Convention and of the PCT
- ☒ OA OAPI Patent: BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, GW Guinea-Bissau, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT (if other kind of protection or treatment desired, specify on dotted line)

National Patent (if other kind of protection or treatment desired, specify on dotted line):

- | | |
|--|--|
| <input checked="" type="checkbox"/> AE United Arab Emirates | <input checked="" type="checkbox"/> LR Liberia |
| <input checked="" type="checkbox"/> AL Albania | <input type="checkbox"/> LS Lesotho |
| <input type="checkbox"/> AM Armenia | <input checked="" type="checkbox"/> LT Lithuania |
| <input type="checkbox"/> AT Austria | <input type="checkbox"/> LU Luxembourg |
| <input checked="" type="checkbox"/> AU Australia | <input checked="" type="checkbox"/> LV Latvia |
| <input type="checkbox"/> AZ Azerbaijan | <input checked="" type="checkbox"/> MA Morocco |
| <input checked="" type="checkbox"/> BA Bosnia and Herzegovina | <input type="checkbox"/> MD Republic of Moldova |
| <input checked="" type="checkbox"/> BB Barbados | <input checked="" type="checkbox"/> MG Madagascar |
| <input checked="" type="checkbox"/> BG Bulgaria | <input checked="" type="checkbox"/> MK The former Yugoslav Republic of Macedonia |
| <input checked="" type="checkbox"/> BR Brazil | |
| <input type="checkbox"/> BY Belarus | <input checked="" type="checkbox"/> MN Mongolia |
| <input checked="" type="checkbox"/> CA Canada | <input type="checkbox"/> MW Malawi |
| <input type="checkbox"/> CH and LI Switzerland and Liechtenstein | <input checked="" type="checkbox"/> MX Mexico |
| <input checked="" type="checkbox"/> CN China | <input checked="" type="checkbox"/> NO Norway |
| <input checked="" type="checkbox"/> CR Costa Rica | <input checked="" type="checkbox"/> NZ New Zealand |
| <input checked="" type="checkbox"/> CU Cuba | <input checked="" type="checkbox"/> PL Poland |
| <input checked="" type="checkbox"/> CZ Czech Republic | <input type="checkbox"/> PT Portugal |
| <input type="checkbox"/> DE Germany | <input checked="" type="checkbox"/> RO Romania |
| <input type="checkbox"/> DK Denmark | <input type="checkbox"/> RU Russian Federation |
| <input checked="" type="checkbox"/> DM Dominica | <input type="checkbox"/> SD Sudan |
| <input checked="" type="checkbox"/> EE Estonia | <input type="checkbox"/> SE Sweden |
| <input type="checkbox"/> ES Spain | <input checked="" type="checkbox"/> SG Singapore |
| <input type="checkbox"/> FI Finland | <input checked="" type="checkbox"/> SI Slovenia |
| <input type="checkbox"/> GB United Kingdom | <input checked="" type="checkbox"/> SK Slovakia |
| <input checked="" type="checkbox"/> GD Grenada | <input type="checkbox"/> SL Sierra Leone |
| <input checked="" type="checkbox"/> GE Georgia | <input type="checkbox"/> TJ Tajikistan |
| <input type="checkbox"/> GH Ghana | <input type="checkbox"/> TM Turkmenistan |
| <input type="checkbox"/> GM Gambia | <input checked="" type="checkbox"/> TR Turkey |
| <input checked="" type="checkbox"/> HR Croatia | <input checked="" type="checkbox"/> TT Trinidad and Tobago |
| <input checked="" type="checkbox"/> HU Hungary | <input type="checkbox"/> TZ United Republic of Tanzania |
| <input checked="" type="checkbox"/> ID Indonesia | <input checked="" type="checkbox"/> UA Ukraine |
| <input checked="" type="checkbox"/> IL Israel | <input type="checkbox"/> UG Uganda |
| <input checked="" type="checkbox"/> IN India | <input checked="" type="checkbox"/> US United States of America |
| <input checked="" type="checkbox"/> IS Iceland | |
| <input checked="" type="checkbox"/> JP Japan | <input checked="" type="checkbox"/> UZ Uzbekistan |
| <input type="checkbox"/> KE Kenya | <input checked="" type="checkbox"/> VN Viet Nam |
| <input type="checkbox"/> KG Kyrgyzstan | <input checked="" type="checkbox"/> YU Yugoslavia |
| <input checked="" type="checkbox"/> KP Democratic People's Republic of Korea | <input checked="" type="checkbox"/> ZA South Africa |
| | <input type="checkbox"/> ZW Zimbabwe |

Check-boxes reserved for designating States which have become party to the PCT after issuance of this sheet:

- ☐
 ☐

Precautionary Designation Statement: In addition to the designations made above, the applicant also makes under Rule 4.9(b) all other designations which would be permitted under the PCT except any designation(s) indicated in the Supplemental Box as being excluded from the scope of this statement. The applicant declares that those additional designations are subject to confirmation and that a designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit. (Confirmation (including fees) must reach the receiving Office within the 15-month time limit.)

| Box No. VI PRIORITY CLAIM | | <input type="checkbox"/> Further priority claims are indicated in the Supplemental Box. | | |
|---|-------------------------------|---|---------------------------------------|---|
| Filing date of earlier application (day/month/year) | Number of earlier application | Where earlier application is: | | |
| | | national application: country | regional application: regional Office | international application: receiving Office |
| item (1) 12 OCTOBER 1999 (12. 10. 99) | 99600015.4 | | EPO | |
| item (2) | | | | |
| item (3) | | | | |

☐ The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (only if the earlier application was filed with the Office which for the purposes of the present international application is the receiving Office) identified above as item(s):

* Where the earlier application is an ARIPO application, it is mandatory to indicate in the Supplemental Box at least one country party to the Paris Convention for the Protection of Industrial Property for which that earlier application was filed (Rule 4.10(b)(ii)). See Supplemental Box.

Box No. VII INTERNATIONAL SEARCHING AUTHORITY

| | | | |
|---|--|--------|------------------------------|
| Choice of International Searching Authority (ISA) (if two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used): | Request to use results of earlier search; reference to that search (if an earlier search has been carried out by or requested from the International Searching Authority): | | |
| ISA/ EP | Date (day/month/year) | Number | Country (or regional Office) |

Box No. VIII CHECK LIST; LANGUAGE OF FILING

| | |
|---|--|
| This international application contains the following number of sheets: | This international application is accompanied by the item(s) marked below: |
| request : 3 | 1. <input type="checkbox"/> fee calculation sheet |
| description (excluding sequence listing part) : 6 | 2. <input checked="" type="checkbox"/> separate signed power of attorney |
| claims : 6 | 3. <input type="checkbox"/> copy of general power of attorney; reference number, if any: |
| abstract : 1 | 4. <input type="checkbox"/> statement explaining lack of signature |
| drawings : 1 | 5. <input type="checkbox"/> priority document(s) identified in Box No. VI as item(s): |
| sequence listing part of description : 1 | 6. <input type="checkbox"/> translation of international application into (language): |
| Total number of sheets : 17 | 7. <input type="checkbox"/> separate indications concerning deposited microorganism or other biological material |
| | 8. <input type="checkbox"/> nucleotide and/or amino acid sequence listing in computer readable form |
| | 9. <input type="checkbox"/> other (specify): |

Figure of the drawings which should accompany the abstract: 1

Language of filing of the international application: ENGLISH

Box No. IX SIGNATURE OF APPLICANT OR AGENT

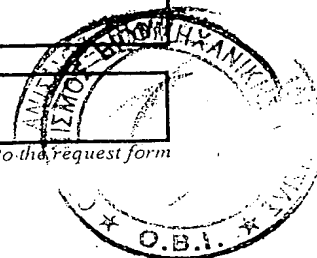
Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).

PANAGIOTIDOU EFFIMIA
ATTORNEY AT LAW
(No of Reg. at the EPO: 155600)
41 MITROPOLEOS
546 23 THESSALONIKI
GREECE

| | | | |
|---|--|---|--|
| For receiving Office use only | | 2. Drawings: | |
| 1. Date of actual receipt of the purported international application: 07 March 2000/07. 03. 2000 | | <input checked="" type="checkbox"/> received: | |
| 3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application: | | <input type="checkbox"/> not received: | |
| 4. Date of timely receipt of the required corrections under PCT Article 11(2): | | | |
| 5. International Searching Authority (if two or more are competent): ISA/ EPO | 6. <input type="checkbox"/> Transmittal of search copy delayed until search fee is paid. | | |

Date of receipt of the record copy by the International Bureau:

For International Bureau use only



PCT

POWER OF ATTORNEY

(for an international application filed under the Patent Cooperation Treaty)

(PCT Rule 90.4)

The undersigned applicant(s) (Names should be indicated as they appear in the request):

NIKOLAOU ATHANASIOS
8 EVROU
19100 MEGARA ATTIKIS
ATHENS - GREECE

hereby appoints (appoint) the following person as:



agent



common representative

Name and address

(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

PANAGIOTIDOU EFFIMIA
ATTORNEY AT LAW
(No of Reg. at the EPO: 155600)
41 MITROPOLEOS
546 23 THESSALONIKI
GREECE

to represent the undersigned before



all the competent International Authorities



the International Searching Authority only



the International Preliminary Examining Authority only

in connection with the international application identified below:

Title of the invention: METHOD FOR THE QUALITATIVE IMPROVEMENT OF THE PRODUCTS
OF THE TOBACCO PLANT.

Applicant's or agent's file reference:

International application number (if already available): 99600015.4/12-10-1999

filed with the following Office _____ EPO _____ as receiving Office
and to make or receive payments on behalf of the undersigned.

Signature of the applicant(s) (where there are several applicants, each of them must sign; next to each signature, indicate the name of the person signing and the capacity in which the person signs, if such capacity is not obvious from reading the request or this power):


NIKOLAOU ATHANASIOS

Date: _____



This sheet is not part of and does not count as a sheet of the international application.

PCT

FEE CALCULATION SHEET Annex to the Request

For receiving Office use only

International application No.

Date stamp of the receiving Office

Applicant's or agent's
file reference

Applicant

NIKOLAOU ATHANASIOS

CALCULATION OF PRESCRIBED FEES

1. TRANSMITTAL FEE GRD 39.500 T

2. SEARCH FEE GRD 314.700 S

International search to be carried out by EPO

(If two or more International Searching Authorities are competent in relation to the international application, indicate the name of the Authority which is chosen to carry out the international search.)

3. INTERNATIONAL FEE

Basic Fee

The international application contains 17 sheets.

first 30 sheets GRD 136.000 b1

_____ x _____ = _____ b2

remaining sheets additional amount

Add amounts entered at b1 and b2 and enter total at B GRD 136.000 B

Designation Fees

The international application contains 53 designations.

_____ x _____ = GRD 232.000 D

number of designation fees amount of designation fee payable (maximum 8)

Add amounts entered at B and D and enter total at I GRD 368.000 I

(Applicants from certain States are entitled to a reduction of 75% of the international fee. Where the applicant is (or all applicants are) so entitled, the total to be entered at I is 25% of the sum of the amounts entered at B and D.)

4. FEE FOR PRIORITY DOCUMENT (if applicable) P

5. TOTAL FEES PAYABLE GRD 722.200

Add amounts entered at T, S, I and P, and enter total in the TOTAL box TOTAL

☐ The designation fees are not paid at this time.

MODE OF PAYMENT

☐ authorization to charge
deposit account (see below)

☒ bank draft

☐ coupons

☐ cheque

☐ cash

☐ other (specify):

☐ postal money order

☐ revenue stamps

DEPOSIT ACCOUNT AUTHORIZATION (this mode of payment may not be available at all receiving Offices)

The RO/ _____ ☐ is hereby authorized to charge the total fees indicated above to my deposit account.

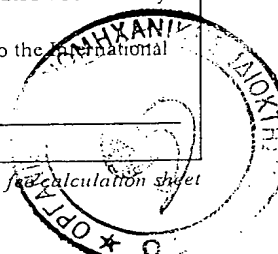
☐ (this check-box may be marked only if the conditions for deposit accounts of the receiving Office so permit) is hereby authorized to charge any deficiency or credit any overpayment in the total fees indicated above to my deposit account.

☐ is hereby authorized to charge the fee for preparation and transmittal of the priority document to the International Bureau of WIPO to my deposit account.

Deposit Account No.

Date (day/month/year)

Signature



PATENT COOPERATION TREATY

PCT

REC'D 09 JAN 2002

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

| | | |
|--|---|---|
| Applicant's or agent's file reference PANAGIOTIDOU | | FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) |
| International application No. PCT/GR00/00012 | International filing date (day/month/year) 07/03/2000 | Priority date (day/month/year) 12/10/1999 |
| International Patent Classification (IPC) or national classification and IPC A24B15/22 | | |
| Applicant NIKOLAOU ATHANASIOS [OF PANAGIOTIS] | | |

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.


2. This REPORT consists of a total of 4 sheets, including this cover sheet.

- ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 4 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

| | |
|---|--|
| Date of submission of the demand 12/04/2001 | Date of completion of this report 07.01.2002 |
| Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465 | Authorized officer Van Woensel, G Telephone No. +49 89 2399 2089 |



INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GR00/00012

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-6 as originally filed

Claims, No.:

1-13 as received on 26/10/2001 with letter of 24/10/2001

Drawings, sheets:

1/1 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation-furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GR00/00012

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | | |
|-------------------------------|------|--------|------|
| Novelty (N) | Yes: | Claims | 1-13 |
| | No: | Claims | |
| Inventive step (IS) | Yes: | Claims | 1-13 |
| | No: | Claims | |
| Industrial applicability (IA) | Yes: | Claims | 1-13 |
| | No: | Claims | |

2. Citations and explanations **see separate sheet**

Ad V

1. The present application meets the requirements of Article 33 PCT.
Document US-A-3699976 discloses a method according to the preamble of claim 1. None of the prior art documents cited in the International Search Report discloses or suggests a method with any of the features of the characterising portion of present claim 1.
Therefore, claim 1 meets the requirements of Article 33 (2) and (3) PCT.
Claims 2-13 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.
Claims 1-4 are considered to be industrially applicable (Article 33(4) PCT).

2430

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE

(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

ARGYRIADIS, Korinna
Sina Str. 14
GR-10672 Athens
GRÈCE

Date of mailing (day/month/year)

07 December 2001 (07.12.01)

Applicant's or agent's file reference

PANAGIOTIDOU

IMPORTANT NOTIFICATION

International application No.

PCT/GR00/00012

International filing date (day/month/year)

07 March 2000 (07.03.00)

1. The following indications appeared on record concerning:

☐

the applicant

☐

the inventor

☒

the agent

☐

the common representative

Name and Address

PANAGIOTIDOU, Effimia
41 Mitropoleos
GR-546 23 Thessaloniki
Greece

State of Nationality

State of Residence

Telephone No.

0030-31-241-880

Facsimile No.

0030-31-225-275

Teleprinter No.

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☒

the person

☒

the name

☒

the address

☐

the nationality

☐

the residence

Name and Address

ARGYRIADIS, Korinna
Sina Str. 14
GR-10672 Athens
Greece

State of Nationality

State of Residence

Telephone No.

Facsimile No.

Teleprinter No.

3. Further observations, if necessary:

4. A copy of this notification has been sent to:

☒

the receiving Office

☐

the International Searching Authority

☒

the International Preliminary Examining Authority

☐

the designated Offices concerned

☒

the elected Offices concerned

☐

other:

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

Athina NICKITAS-ETIENNE

Telephone No.: (41-22) 338.83.38

AN

The demand must be filed directly with the competent International Preliminary Examining Authority or, if two or more Authorities are competent, with the one chosen by the applicant. The full name or two-letter code of that Authority may be indicated by the applicant on the line below:

IPEA/EPO

22130

PCT

CHAPTER II

DEMAND

under Article 31 of the Patent Cooperation Treaty:

The undersigned requests that the international application specified below be the subject of international preliminary examination according to the Patent Cooperation Treaty and hereby elects all eligible States (except where otherwise indicated).

For International Preliminary Examining Authority use only

| | | | |
|--|--|--|--|
| Identification of IPEA | | Date of receipt of DEMAND | |
| Box No. I IDENTIFICATION OF THE INTERNATIONAL APPLICATION | | Applicant's or agent's file reference PANAGIOTIDOU E. | |
| International application No. PCT/GR00/00012 | International filing date (day/month/year) 07.03.2000 | (Earliest) Priority date (day/month/year) 12.10.1999 | |
| Title of invention METHOD FOR THE QUALITATIVE IMPROVEMENT OF THE PRODUCTS OF THE TOBACCO PLANT | | | |
| Box No. II APPLICANT(S) | | | |
| Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.) NIKOLAOU Athanasios 8 EVROU 19100 MEGARA ATTIKIS GREECE | | Telephone No.: 0030-296-82755 | |
| | | Facsimile No.: | |
| | | Teleprinter No.: | |
| State (that is, country) of nationality: GR | | State (that is, country) of residence: GR | |
| Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.) | | | |
| State (that is, country) of nationality: | | State (that is, country) of residence: | |
| Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.) | | | |
| State (that is, country) of nationality: | | State (that is, country) of residence: | |
| <input type="checkbox"/> Further applicants are indicated on a continuation sheet. | | | |

Box No. III AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCEThe following person is ☒ agent ☐ common representativeand ☒ has been appointed earlier and represents the applicant(s) also for international preliminary examination.☐ is hereby appointed and any earlier appointment of (an) agent(s)/common representative is hereby revoked.☐ is hereby appointed, specifically for the procedure before the International Preliminary Examining Authority, in addition to the agent(s)/common representative appointed earlier.Name and address: *(Family name followed by given name; for a legal entity, full official designation.
The address must include postal code and name of country.)*PANAGIOTIDOU Effimia
ATTORNEY AT LAW
(No of Reg. at the EPO: 155600)
MITROPOLEOS 41
546 23 THESSALONIKI
GREECE

Telephone No.:

0030-31-241880

Facsimile No.:

0030-31-225275

Teleprinter No.:

☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.**Box No. IV BASIS FOR INTERNATIONAL PRELIMINARY EXAMINATION****Statement concerning amendments:***

1. The applicant wishes the international preliminary examination to start on the basis of:

☒ the international application as originally filedthe description ☒ as originally filed
☐ as amended under Article 34the claims ☒ as originally filed
☐ as amended under Article 19 (together with any accompanying statement)
☐ as amended under Article 34the drawings ☒ as originally filed
☐ as amended under Article 342. ☐ The applicant wishes any amendment to the claims under Article 19 to be considered as reversed.3. ☐ The applicant wishes the start of the international preliminary examination to be postponed until the expiration of 20 months from the priority date unless the International Preliminary Examining Authority receives a copy of any amendments made under Article 19 or a notice from the applicant that he does not wish to make such amendments (Rule 69.1(d)). *(This check-box may be marked only where the time limit under Article 19 has not yet expired.)*

* Where no check-box is marked, international preliminary examination will start on the basis of the international application as originally filed or, where a copy of amendments to the claims under Article 19 and/or amendments of the international application under Article 34 are received by the International Preliminary Examining Authority before it has begun to draw up a written opinion or the international preliminary examination report, as so amended.

Language for the purposes of international preliminary examination: ENGLISH☒ which is the language in which the international application was filed.☐ which is the language of a translation furnished for the purposes of international search.☐ which is the language of publication of the international application.☐ which is the language of the translation (to be) furnished for the purposes of international preliminary examination.**Box No. V ELECTION OF STATES**The applicant hereby elects all eligible States *(that is, all States which have been designated and which are bound by Chapter II of the PCT)*

excluding the following States which the applicant wishes not to elect:

Box No. VI CHECK LIST

The demand is accompanied by the following elements, in the language referred to in Box No. IV, for the purposes of international preliminary examination:

- | | | |
|--|---|----------|
| 1. translation of international application | : | sheets |
| 2. amendments under Article 34 | : | sheets |
| 3. copy (or, where required, translation) of amendments under Article 19 | : | sheets |
| 4. copy (or, where required, translation) of statement under Article 19 | : | sheets |
| 5. letter | : | 1 sheets |
| 6. other (<i>specify</i>) | : | sheets |

For International Preliminary Examining Authority use only

received not received

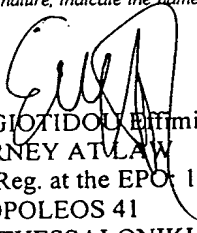
| | |
|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |

The demand is also accompanied by the item(s) marked below:

- | | |
|--|---|
| 1. <input checked="" type="checkbox"/> fee calculation sheet | 4. <input type="checkbox"/> statement explaining lack of signature |
| 2. <input checked="" type="checkbox"/> separate signed power of attorney | 5. <input type="checkbox"/> nucleotide and or amino acid sequence listing in computer readable form |
| 3. <input type="checkbox"/> copy of general power of attorney; reference number, if any: | 6. <input checked="" type="checkbox"/> other (<i>specify</i>): Bank deposit copy |

Box No. VII SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the demand).


PANAGIOTIDOU Effimia
ATTORNEY AT LAW
(No of Reg. at the EPO: 1556000)
MITROPOLEOS 41
546 23 THESSALONIKI
GREECE

For International Preliminary Examining Authority use only

1. Date of actual receipt of DEMAND:

2. Adjusted date of receipt of demand due to CORRECTIONS under Rule 60.1(b):

3. ☐ The date of receipt of the demand is AFTER the expiration of 19 months from the priority date and item 4 or 5, below, does not apply.

☐ The applicant has been informed accordingly.

4. ☐ The date of receipt of the demand is WITHIN the period of 19 months from the priority date as extended by virtue of Rule 80.5.

5. ☐ Although the date of receipt of the demand is after the expiration of 19 months from the priority date, the delay in arrival is EXCUSED pursuant to Rule 82.

For International Bureau use only

Demand received from IPEA on:

PATENT COOPERATION TREATY

PCT

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

PANAGIOTIDOU, Effimia
41 Mitropoleos
GR-546 23 Thessaloniki
GRECE

NOTIFICATION OF RECEIPT OF DEMAND BY COMPETENT INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

(PCT Rules 59.3(e) and 61.1(b), first sentence
and Administrative Instructions, Section 601(a))

Date of mailing
(day/month/year)

04. 05. 01

Applicant's or agent's file reference
PANAGIOTIDOU

IMPORTANT NOTIFICATION

International application No.
PCT/GR 00/ 00012

International filing date (day/month/year)
07/03/2000

Priority date (day/month/year)
12/10/1999

Applicant

NIKOLAOU ATHANASIOS OF PANAGIOTIS

1. The applicant is hereby notified that this International Preliminary Examining Authority considers the following date as the date of receipt of the demand for international preliminary examination of the international application:

12/04/2001

2. This date of receipt is:

- ☒ the actual date of receipt of the demand by this Authority (Rule 61.1(b)).
- ☐ the actual date of receipt of the demand on behalf of this Authority (Rule 59.3(e)).
- ☐ the date on which this Authority has, in response to the invitation to correct defects in the demand (Form PCT/IPEA/404), received the required corrections.

3. ☐ **ATTENTION:** That date of receipt is **AFTER** the expiration of 19 months from the priority date. Consequently, the election(s) made in the demand does (do) not have the effect of postponing the entry into the national phase until 30 months from the priority date (or later in some Offices) (Article 39(1)). Therefore, the acts for entry into the national phase must be performed within 20 months from the priority date (or later in some Offices) (Article 22). For details, see the *PCT Applicant's Guide*, Volume II.

- ☐ (If applicable) This notification confirms the information given by telephone, facsimile transmission or in person on:

4. Only where paragraph 3 applies, a copy of this notification has been sent to the International Bureau.

Name and mailing address of the IPEA/



European Patent Office
D-80298 Munich
Tel. (+49-89) 2399-0, Tx: 523656 epmu d
Fax: (+49-89) 2399-4465

Authorized officer

COMMARE I

Tel. (+49-89) 2399-2883



PATENT COOPERATION TREATY

22/300

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT
(PCT Rule 71.1)

To:

PANAGIOTIDOU, Effimia
41 Mitropoleos
GR-546 23 Thessaloniki
GRECE

Date of mailing
(day/month/year) 07.01.2002

Applicant's or agent's file reference
PANAGIOTIDOU

IMPORTANT NOTIFICATION

International application No.
PCT/GR00/00012

International filing date (day/month/year)
07/03/2000

Priority date (day/month/year)
12/10/1999

Applicant
NIKOLAOU ATHANASIOS OF PANAGIOTIS

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/

 European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized officer

Kiepe, C

Tel. +49 89 2399-2423




PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

| | | |
|---|---|---|
| Applicant's or agent's file reference PANAGIOTIDOU | FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) | |
| International application No. PCT/GR00/00012 | International filing date (day/month/year) 07/03/2000 | Priority date (day/month/year) 12/10/1999 |
| International Patent Classification (IPC) or national classification and IPC A24B15/22 | | |
| Applicant NIKOLAOU ATHANASIOS OF PANAGIOTIS | | |
| <p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 4 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 4 sheets.</p> | | |
| <p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application | | |
| Date of submission of the demand 12/04/2001 | Date of completion of this report 07.01.2002 | |
| Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465 | Authorized officer Van Woensel, G Telephone No. +49 89 2399 2089 | |



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GR00/00012

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):
Description, pages:

1-6 as originally filed

Claims, No.:

1-13 as received on 26/10/2001 with letter of 24/10/2001

Drawings, sheets:

1/1 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GR00/00012

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | |
|-------------------------------|------------------|
| Novelty (N) | Yes: Claims 1-13 |
| | No: Claims |
| Inventive step (IS) | Yes: Claims 1-13 |
| | No: Claims |
| Industrial applicability (IA) | Yes: Claims 1-13 |
| | No: Claims |

2. Citations and explanations
see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GR00/00012

Ad V

1. The present application meets the requirements of Article 33 PCT.
Document US-A-3699976 discloses a method according to the preamble of claim 1.
None of the prior art documents cited in the International Search Report discloses or suggests a method with any of the features of the characterising portion of present claim 1.
Therefore, claim 1 meets the requirements of Article 33 (2) and (3) PCT.
Claims 2-13 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.
Claims 1-4 are considered to be industrially applicable (Article 33(4) PCT).

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

| | | |
|--|---|--|
| Applicant's or agent's file reference PANAGIOTIDOU | FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below. | |
| International application No. PCT/GR 00/ 00012 | International filing date (day/month/year) 07/03/2000 | (Earliest) Priority Date (day/month/year) 12/10/1999 |
| Applicant NIKOLAOU ATHANASIOS OF PANAGIOTIS | | |

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of Invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

1

☐

None of the figures.

*preconceived
ideas - opinion*

INTERNATIONAL SEARCH REPORT

International Application No.

T/GR 00/00012

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A24B15/22

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A24B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|-----------------------|
| X | US 3 699 976 A (ABE ET AL.) 24 October 1972 (1972-10-24) column 6, line 63 -column 7, line 27; claims --- | 1-8, 11-13 |
| X | GB 1 276 496 A (CARRERAS LIMITED) 1 June 1972 (1972-06-01) page 2, line 35 - line 114; claims --- | 1-8, 11-13 |
| X | US 3 785 384 A (SYLVESTER ET AL.) 15 January 1974 (1974-01-15) column 1, line 49 - line 52 column 3, line 59 -column 4, line 11; claims; figures 3,4 --- -/-- | 1-8, 11-13 |



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

24 May 2000

Date of mailing of the international search report

09/06/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Lepretre, F

INTERNATIONAL SEARCH REPORT

International Application No

T/GR 00/00012

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category ° | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|-----------------------|
| X | US 5 803 081 A (O'DONNEL) 8 September 1998 (1998-09-08) column 7, line 21 -column 8, line 41; claims; figures 3,4; tables 1,2 ----- | 1-8, 11-13 |

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GR 00/00012

| Patent document cited in search report | | Publication date | Patent family member(s) | Publication date |
|---|---|---------------------|----------------------------|---------------------|
| US 3699976 | A | 24-10-1972 | JP 50017381 B | 20-06-1975 |
| | | | GB 1295942 A | 08-11-1972 |
| ----- | | | | |
| GB 1276496 | A | 01-06-1972 | NONE | |
| ----- | | | | |
| US 3785384 | A | 15-01-1974 | NONE | |
| ----- | | | | |
| US 5803081 | A | 08-09-1998 | US 5845647 A | 08-12-1998 |
| | | | AU 4048297 A | 25-02-1998 |
| | | | BR 9711622 A | 18-01-2000 |
| | | | CA 2262866 A | 12-02-1998 |
| | | | CN 1231583 A | 13-10-1999 |
| | | | EP 0967898 A | 05-01-2000 |
| | | | WO 9805226 A | 12-02-1998 |
| ----- | | | | |

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
 US Department of Commerce
 United States Patent and Trademark
 Office, PCT
 2011 South Clark Place Room
 CP2/5C24
 Arlington, VA 22202
 ETATS-UNIS D'AMERIQUE
 in its capacity as elected Office

| | |
|---|---|
| Date of mailing (day/month/year) 31 May 2001 (31.05.01) | |
| International application No. PCT/GR00/00012 | Applicant's or agent's file reference PANAGIOTIDOU |
| International filing date (day/month/year) 07 March 2000 (07.03.00) | Priority date (day/month/year) 12 October 1999 (12.10.99) |
| Applicant NIKOLAOU, Athanasios | |

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

12 April 2001 (12.04.01)

☐ in a notice effecting later election filed with the International Bureau on:
2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

| | |
|--|--|
| The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35 | Authorized officer Nestor Santesso Telephone No.: (41-22) 338.83.38 |
|--|--|

PATENT COOPERATION TREATY

PCT

From the INTERNATIONAL BUREAU

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

To:

ARGYRIADIS, Korinna
Sina Str. 14
GR-10672 Athens
GRÈCE

Date of mailing (day/month/year)

07 décembre 2001 (07.12.01)

Applicant's or agent's file reference

PANAGIOTIDOU

IMPORTANT NOTIFICATION

International application No.

PCT/GR00/00012

International filing date (day/month/year)

07 mars 2000 (07.03.00)

1. The following indications appeared on record concerning:

☐

the applicant

☐

the inventor

☒

the agent

☐

the common representative

Name and Address

PANAGIOTIDOU, Effimia
41 Mitropoleos
GR-546 23 Thessaloniki
Greece

State of Nationality

State of Residence

Telephone No.

0030-31-241-880

Facsimile No.

0030-31-225-275

Teleprinter No.

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☒

the person

☒

the name

☒

the address

☐

the nationality

☐

the residence

Name and Address

ARGYRIADIS, Korinna
Sina Str. 14
GR-10672 Athens
Greece

State of Nationality

State of Residence

Telephone No.

Facsimile No.

Teleprinter No.

3. Further observations, if necessary:

4. A copy of this notification has been sent to:

☒

the receiving Office

☐

the International Searching Authority

☒

the International Preliminary Examining Authority

☐

the designated Offices concerned

☒

the elected Offices concerned

☐

other:

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Authorized officer

Athina NICKITAS-ETIENNE

Facsimile No.: (41-22) 740.14.35

Telephone No.: (41-22) 338.83.38

(19) World Intellectual Property Organization
International Bureau



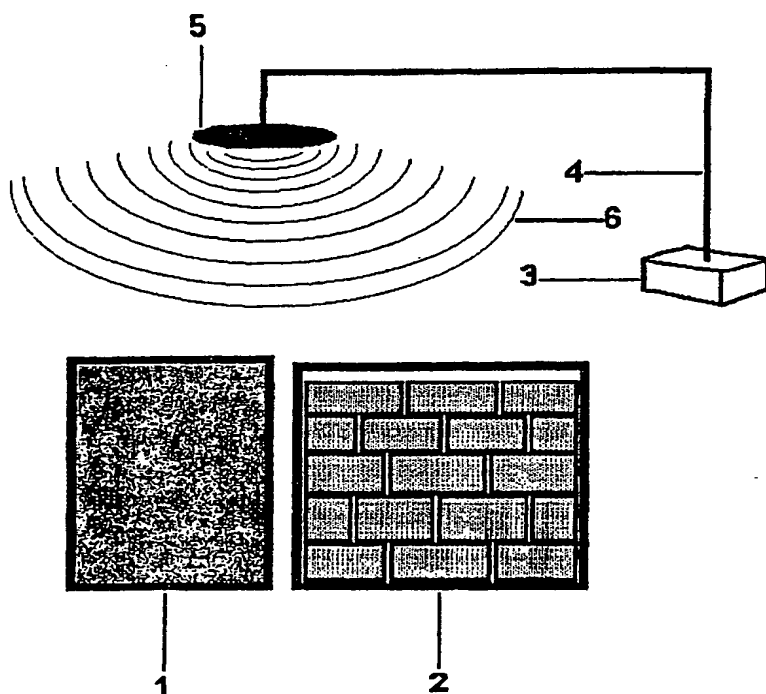
(43) International Publication Date
19 April 2001 (19.04.2001)

PCT

(10) International Publication Number
WO 01/26493 A1

- (51) International Patent Classification⁷: **A24B 15/22**
- (21) International Application Number: PCT/GR00/00012
- (22) International Filing Date: 7 March 2000 (07.03.2000)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
99600015.4 12 October 1999 (12.10.1999) EP
- (71) Applicant and
(72) Inventor: NIKOLAOU, Athanasios [GR/GR]; 8 Evrou Str., GR-191 00 Megara Attikis (GR).
- (74) Agent: PANAGIOTIDOU, Effimia; 41 Mitropoleos, GR-546 23 Thessaloniki (GR).
- (81) Designated States (*national*): AE, AL, AU, BA, BB, BG, BR, CA, CN, CR, CU, CZ, DM, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MA, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, YU, ZA.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- Published:**
— With international search report.
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: METHOD FOR THE QUALITATIVE IMPROVEMENT OF THE PRODUCTS OF THE TOBACCO PLANT



(57) Abstract: The method belongs to the field of electronic science and is applied to the field of the manufacture of products deriving from the tobacco plant, such as cigarettes, cigars, pipe tobacco, tobacco in general, and achieves their qualitative improvement. The qualitative improvement is achieved with the pulsatory emission of electromagnetic waves (6) towards the tobacco products, which are produced by electromechanical or electronic devices (3), are pre-programmed, cover wide ranges of wavelengths from 1 mm to 11,000 Km, together with their harmonic frequencies, which are produced by the device and which are emitted either at all wavelengths from 1 mm to 11,000 Km, or at one or more parts of particular areas, with controlled potency, controlled application time and controlled application result. It is applied in industries, manufacturing and commercial enterprises of final or not tobacco products, which are either at the processing stage, or after the completion of their manufacture, or during their storage, regardless of the way or the materials they are packaged with.

Method for the qualitative improvement of the products of the tobacco plant

The invention belongs in the field of electronic science and applies in the
5 field of the industrially manufactured products deriving from the tobacco plant,
such as cigarettes, cigars, pipe tobacco, tobacco in general and its types. More
specifically, the invention concerns the qualitative improvement of the products
derived from the tobacco plant and can be applied during the processing of the
tobacco and/or during the production of its products.

10

With the mass production of cigarettes following World War II, there was
a large increase in the cases of lung cancer, mouth and pharyngeal cancer,
cardiovascular diseases and, generally, serious and fatal diseases for the human
organism. Soon, this fact was linked to the consumption of tobacco products and
15 especially of cigarettes, which contain a large number of toxic chemical
substances, both in the solid stage of tobacco and in its gaseous one. In the
former, solid, stage, before its burning (use), tobacco contains substances which
are directly toxic, like, for example, tar and nicotine. In the latter, gaseous stage,
during its burning (use) more toxic substances are produced which are harmful to
20 the human organism.

To counter this problem of the toxic substances which are contained in and
produced during the use of these products, there have been used in the last years
various industrial products, like the tar- and nicotine-collecting filters of one or
25 multiple uses, the common conventional cigarette filters, as well as, recently, the
biological cigarette filters, which, to-date, provide the maximum possible
protection from the toxic substances of the solid and gaseous stages of tobacco.
This is the state of the art of today's technology. However, all these products
attempt to limit the toxic action of the tobacco substances, by intervening during

the smoking stage. To-date there exists no method or product to act on the toxic substances themselves of solid tobacco, limiting their toxic action. before the use of the product, that is, before the product reaches the final consumer.

- 5 The present invention aims at providing a solution to the above mentioned problem of the reduction of the harmful effects of smoking, qualitatively upgrading the tobacco products.

The present invention constitutes a method which acts on solid tobacco
10 before its use by the consumer and can be applied either during the industrial processing of tobacco and the production of its final products, or to the final products themselves (cigarette packs, cigars and tobacco pouches). The present invention acts on the existing toxic substances, improving the quality of tobacco, so that the final product used by the consumer has fewer harmful effects on his
15 health. It constitutes a new original method for the qualitative improvement of the industrial products of the tobacco plant. The qualitative improvement is achieved with the emission towards the industrial products of the tobacco plant of electromagnetic waves covering wide wavelengths, which are produced by electromechanical or electronic devices, the emission of which is pre-
20 programmed, has controlled power, control application time and control quality result.

The advantages of the present method is that it acts on the toxic substances themselves of solid tobacco and limits their toxic action, thus achieving a
25 significant qualitative improvement of the industrial products of tobacco. Moreover, an extremely serious advantage of this method is that the beginning of the improvement is achieved with the beginning of the application of the method, while its required application time for the achievement of substantial improvement is short, not more than a few hours. Another advantage of this

method is that it admits wide industrial application and, moreover, it does not require changes in the working specifications of the existing industrial or manufacturing facilities, either during the stage of the processing of the tobacco or during the stage of the production of the final product (cigarette packs, cigars and tobacco pouches). Another advantage of this method is that it is not applied only during the processing stage of the tobacco and the industrial manufacture of its final products, but it is all applied directly to the final product even after its packaging or while it is in storage areas, and it can also admit household use. Another advantage of the method is that for its application it is not necessary for the tobacco products to be stationary, and neither the device. Thus, the method can be applied on ships or transportation containers, so that their qualitative improvement will have been achieved by the time they reach their destination. Another advantage of this method is that its application is financially expedient, as it requires very low operational costs.

15

The invention is described below, with the aid of non-restrictive examples and with reference to the attached drawing, which illustrates one application form of the method which constitutes the object of the present invention.

The drawing illustrates one application way of the invention, on final industrial tobacco products and final packaged ones.

One application way of the invention is described with reference to the drawing. The final industrial tobacco products (1) are placed packaged in the storage areas or packaged in boxes (2), at the customary storage temperature. Near them is placed an electromechanical or electronic device (3) of programmed operation, which emits electromagnetic waves (6) and from which extends a tube (4) which ends in their emitting antenna (5). The electromagnetic waves (6) are emitted towards the final industrial tobacco products (1) or towards the packaged

ones in the boxes (2). The emitting antenna (5) may constitute an integral part of the emitting device (3) or be connected to it with a tube (4).

The electromechanical or electronic device (3) produces electromagnetic waves (6) which cover wide wavelength ranges, from 1mm to 11,000km, together with their harmonic frequencies, which are produced by the device and which are emitted either in all the wavelengths from 1mm to 11,000km or in one or more parts of particular areas, so as to achieve a resonance of all the elements of tobacco. The areas of the frequencies to which these electromagnetic waves belong are characterized by the international names EHL (extremely high frequencies), SHF (super high frequencies), UHF (ultra high frequencies), VHF (very high frequencies), HF (high frequencies), MF (medium frequencies), LF (low frequencies), VLF (very low frequencies). The emission of the electromagnetic waves (6) is programmed with the electromechanical or electronic circuit of the device (3) so as not to be continuous but pulsatory. The length between the emitted pulses may be of constant or variable time. The length between the pauses of the emitted pulses may be of constant or variable time.

The emission of the electromagnetic waves (6) may be modulated in any way, or it may not be modulated at all.

The emission potency of the electromagnetic waves (6) increases with each augmentative alteration of the distance between the source of the emission (5) of the electromagnetic waves (6) and the industrial tobacco products (1), or even with each augmentative alteration of the volume of the industrial tobacco products (1), to which the method is applied, in order to achieve the same qualitative improvement at the same time, as well as the reverse. Also, with each augmentative alteration of the distance between the source of the emission (5) of the electromagnetic waves (6) and the industrial tobacco products (1), or even with each augmentative alteration of the volume of the industrial tobacco

products (1), to which the method is applied, the application duration time of the method must be increased in order to achieve the same qualitative improvement with the same potency, as well as the reverse.

5 Furthermore, there exists the possibility of electromagnetic waves (6) being emitted from more than one device, simultaneously, in the same place. The total simultaneous emission potency provided must always be low, in order to achieve the desired result, but without causing any substantial increase in the temperature of the industrial tobacco products to which the present method is
10 applied, without the potency descending below 0.0001 mWatt, whether one device is used or more than one devices.

The user of the method is able to decrease the time required for the achievement of the selected level of qualitative improvement by increasing the total simultaneous emission potency provided by the electromagnetic waves (6),
15 which must be maintained in low levels, so as not to cause a substantial increase in the temperature of the industrial tobacco products, as well as the reverse, but without the emission potency descending below 0.0001 mWatt.

The initiation of the qualitative improvement of the industrial tobacco products occurs with the initiation of the application of the method, while the
20 required application time for the occurrence of a substantial improvement is short, not more than a few hours.

The duration period of the application of the method is dependent on the type of the industrial tobacco products to which the method is applied and is proportional to the desirable qualitative result. Thus, the longer the duration
25 period of the application of the method the greater the qualitative improvement of the industrial tobacco products to which the method is applied.

Also, the method may be applied even if between the source of the pulsatory emission of electromagnetic waves and the industrial tobacco products

there exist materials such as cardboard, wooden boxes, concrete and metals, with the exception of conductible materials which are grounded.

The present method can be widely used by industries, manufacturing and commercial enterprises of tobacco products, and applied either during the processing of the tobacco, or during the manufacture of the products, or even to the final tobacco products after their packaging in the storage areas or they are packaged in boxes.

The method results in a substantial qualitative improvement of the industrial tobacco products, as it counters the toxic substances of solid tobacco contains their toxic action, thus achieving a significant qualitative improvement of the industrial tobacco products, so that the final product used by the consumer has fewer harmful effects on his health.

CLAIMS

1. A method of qualitative improvement of the products of the tobacco plant (1), through the use of electromagnetic waves (6), which cover wide ranges of wavelengths, which are produced by electromechanical or electronic devices (3),
5 the emission of which is pre-programmed, its potency is controlled, has a controlled application time and a controlled qualitative result, which are emitted towards the tobacco products (1), which method is characterised by the fact that the emission of the electromagnetic waves (6) towards the tobacco products (1) is programmed through an electromechanic or electronic device circuit (3), so that it
10 is not continuous but pulsatory.

2. A method for the qualitative improvement of the products of the tobacco plant (1), through the use of electromagnetic waves (6), which cover wide ranges of wavelengths, which are produced by electromechanical or electronic devices (3),
15 the emission of which is pre-programmed, its potency is controlled, has a controlled application time and a controlled qualitative result, which are emitted pulsatorily towards the tobacco products (1), according to claim 1, which is characterized by the fact that the programmed pulsatory emission of the electromagnetic waves (6), towards the tobacco products (1), has small time
20 pauses of variable length or not of their emission signal and by the fact that both the duration time between the emitted pulses and the duration time between their pauses may be of constant or variable time.

3. A method for the qualitative improvement of the products of the tobacco plant
25 (1), through the use of electromagnetic waves (6), which cover wide ranges of wavelengths, which are produced by electromechanical or electronic devices (3), the emission of which is pre-programmed, its potency is controlled, has a controlled application time and a controlled qualitative result, which are emitted pulsatorily towards the tobacco products (1), according to claims 1 and 2, which

is characterized by the fact that the electromagnetic waves (6), which are emitted pulsatorily towards the tobacco products (1), cover wide ranges of wavelengths from 1mm to 11.000 km, together with their harmonic frequencies, which are produced by the device and emitted either at all the wavelengths from 1 mm to 5 11,000 km or at one or more parts of particular areas, so as to achieve a resonance of all the elements of the tobacco.

4. A method for the qualitative improvement of the products of the tobacco plant (1), through the use of electromagnetic waves (6), which cover wide ranges of 10 wavelengths, which are produced by electromechanical or electronic devices (3), the emission of which is pre-programmed, its potency is controlled, has a controlled application time and a controlled qualitative result, which are emitted pulsatorily towards the tobacco products (1), according to claims 1, 2 and 3, which is characterized by the fact that the frequency ranges to which these 15 electromagnetic waves belong are by the international names EHL (extremely high frequencies), SHF (super high frequencies), UHF (ultra high frequencies), VHF (very high frequencies), HF (high frequencies), MF (medium frequencies), LF (low frequencies), VLF (very low frequencies).

20 5. A method for the qualitative improvement of the products of the tobacco plant (1), through the use of electromagnetic waves (6), which cover wide ranges of wavelengths, which are produced by electromechanical or electronic devices (3), the emission of which is pre-programmed, its potency is controlled, has a controlled application time and a controlled qualitative result, which are emitted 25 pulsatorily towards the tobacco products (1), according to claims 1, 2, 3 and 4, which is characterized by the fact that the pulsatory emission of the electromagnetic waves (6) may be modulated in any way, or it may not be modulated at all.

6. A method for the qualitative improvement of the products of the tobacco plant (1), through the use of electromagnetic waves (6), which cover wide ranges of wavelengths, which are produced by electromechanical or electronic devices (3), the emission of which is pre-programmed, its potency is controlled, has a controlled application time and a controlled qualitative result, which are emitted pulsatorily towards the tobacco products (1), according to claims 1, 2, 3, 4 and 5, which is characterized by the fact that the emitting antenna (5) may constitute an integral part of the emitting device (3), or be connected to it with a tube (4), as well as by the fact that during the application of the method it is possible to move the tobacco products (1) or even the device used for its application (3).

7. A method for the qualitative improvement of the products of the tobacco plant (1), through the use of electromagnetic waves (6), which cover wide ranges of wavelengths, which are produced by electromechanical or electronic devices (3), the emission of which is pre-programmed, its potency is controlled, has a controlled application time and a controlled qualitative result, which are emitted pulsatorily towards the tobacco products (1), according to claims 1, 2, 3, 4, 5 and 6, which is characterized by the fact that the emission potency of the electromagnetic waves (6) must be increased with each augmentative alteration of the distance between the source of the emission (5) of the electromagnetic waves (6) and the tobacco products (1), or even with each augmentative alteration of the volume of the industrial tobacco products (1), to which the method is applied, in order to achieve the same qualitative improvement at the same time, as well as the reverse.

25

8. A method for the qualitative improvement of the products of the tobacco plant (1), through the use of electromagnetic waves (6), which cover wide ranges of wavelengths, which are produced by electromechanical or electronic devices (3), the emission of which is pre-programmed, its potency is controlled, has a

controlled application time and a controlled qualitative result, which are emitted pulsatorily towards the tobacco products (1), according to claims 1, 2, 3, 4, 5, and 7, which is characterized by the fact that with each augmentative alteration of the distance between the source of the emission (5) of the electromagnetic waves (6) 5 and the tobacco products (1), or even with each augmentative alteration of the volume of the tobacco products (1), to which the method is applied, the application duration time of the method must be increased in order to achieve the same qualitative improvement with the same potency, as well as the reverse.

10 9. A method for the qualitative improvement of the products of the tobacco plant (1), through the use of electromagnetic waves (6), which cover wide ranges of wavelengths, which are produced by electromechanical or electronic devices (3), the emission of which is pre-programmed, its potency is controlled, has a controlled application time and a controlled qualitative result, which are emitted 15 pulsatorily towards the tobacco products (1), according to claims 1, 2, 3, 4, 5, 7 and 8, which is characterized by the fact that the application of the method can also be achieved with the pulsatory emission of electromagnetic waves (6) from more than one device, simultaneously, in the same place, which have been programmed to emit electromagnetic waves of the same or different potency, and 20 by the fact that the total simultaneous emission potency provided must always be low, in order to achieve the desired result, without causing any substantial increase in the temperature of the tobacco products to which the present method is applied, without the potency descending below 0.0001 mWatt, whether one device is used or more than one devices.

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10. A method for the qualitative improvement of the products of the tobacco plant (1), through the use of electromagnetic waves (6), which cover wide ranges of wavelengths, which are produced by electromechanical or electronic devices (3), the emission of which is pre-programmed, its potency is controlled, has a

controlled application time and a controlled qualitative result, which are emitted pulsatorily towards the tobacco products (1), according to claims 1, 2, 3, 4, 5, 7, 8 and 9, which is characterized by the fact that the user of the method is able to decrease the time required for the achievement of the selected level of qualitative
5 improvement by increasing the total simultaneous emission potency provided by the electromagnetic waves (6), which must be maintained in low levels, so as not to cause a substantial increase in the temperature of the tobacco products, as well as the reverse, but without the emission potency descending below 0.0001 mWatt.

10

11. A method for the qualitative improvement of the products of the tobacco plant (1), through the use of electromagnetic waves (6), which cover wide ranges of wavelengths, which are produced by electromechanical or electronic devices (3), the emission of which is pre-programmed, its potency is controlled, has a
15 controlled application time and a controlled qualitative result, which are emitted pulsatorily towards the tobacco products (1), according to claims 1, 2, 3, 4, 5, 7, 8, 9 and 10, which is characterized by the fact that the initiation of the qualitative improvement of the tobacco products occurs with the initiation of the application of the method and is short, a few hours only, and by the fact that the duration
20 period of the application of the method is dependent on the type of the tobacco products to which the method is applied, as well as by the fact that the duration time of the application of the method is proportional to the desirable qualitative result, so that the longer the duration period of the application of the method the greater the qualitative improvement of the tobacco products to which the method
25 is applied.

12. A method for the qualitative improvement of the products of the tobacco plant (1), through the use of electromagnetic waves (6), which cover wide ranges of wavelengths, which are produced by electromechanical or electronic devices (3),

the emission of which is pre-programmed, its potency is controlled, has a controlled application time and a controlled qualitative result, which are emitted pulsatorily towards the tobacco products (1), according to claim 1, which is characterized by the fact that it can be applied to all final or not tobacco products, 5 which may be either in their processing stage, or after the completion of their production, or during their storage, regardless of the way or the materials they are packaged in, even if between the emitting source of the electromagnetic waves and the tobacco products there exist materials of any kind, with the exception of conductible materials which are grounded.

10

13. A method for the qualitative improvement of the products of the tobacco plant (1), through the use of electromagnetic waves (6), which cover wide ranges of wavelengths, which are produced by electromechanical or electronic devices (3), the emission of which is pre-programmed, its potency is controlled, has a 15 controlled application time and a controlled qualitative result, which are emitted pulsatorily towards the tobacco products (1), according to claim 1, which is characterized by the fact that the method can have a wide application in industries, manufacturing and commercial enterprises of tobacco products, as well as in households.